



PESTICIDE ENVIRONMENTAL STEWARDSHIP PROGRAM

2004 STRATEGY GUIDANCE

The PESP Strategy process uses a goal-oriented approach to keep all participants - Partners, Supporters and EPA - focused on the goal of pesticide risk reduction. Your Strategy is intended to serve the following purposes: to encourage you to think about risk reduction in a consistent, goal-oriented way; to elicit from you information that measures your progress toward risk reduction; to keep us focused on helping you achieve risk reduction goals; and to achieve these purposes with minimal burden.

This guidance is intended to assist you in preparing your Strategy. We encourage you to work with your Liaison as you prepare your Strategy. Strategies from previous years are also available through www.epa.gov/oppbppd1/PESP.

Each Strategy consists of four major sections: Strategic Approach, Activities, Progress, and Background Document. The Activities and Progress sections are required annually. The Strategic Approach and Background Document should be revisited occasionally to determine if updates would be useful.

STRATEGIC APPROACH

By joining PESP, your organization has committed to working toward pesticide risk reduction. To achieve this long-term goal, we are asking your organization to develop a Strategic Approach.

Your Strategic Approach should be a brief statement of how your organization will be pursuing the risk reduction goal. We hope that by thinking about a Strategic Approach, your organization will find a guiding principle that will help focus your risk reduction activities over the coming years. Please refer to page 7 for helpful information regarding guiding principles by PESP Sector.

We do not expect that your Strategic Approach will change every year, since it is long-term. It is important that you reassess your Strategic Approach to be sure that it still fits your organization's situation.

PROGRESS

This portion of your Strategy gives you the opportunity to report on the progress you made on your 2003 activities.

For each of the activities described in your 2003 Strategy, provide a brief assessment of the progress made achieving them.

Please describe your progress in terms of the measurement scheme you previously described for that activity. Quantifiable information will permit a better assessment of the accomplishment and risk reduction.

ACTIVITIES

In the Activities section, list the efforts that your organization will make in the coming year to reduce pesticide risk. The types of activities that could reduce pesticide risk are as diverse as our members. Activities should be in line with your organization's Strategic Approach. For example, if your Strategic Approach is to implement IPM, one of your activities could be to educate your growers on a specific IPM technique.

We ask that you list only those activities that can be achieved in the next year. For longer-term projects, the activity that you put down may only be a single phase of a multi-phase activity. You may tell us about any activity that you are pursuing that you think will reduce pesticide risk.

In addition to describing the activity, we also ask that you indicate how this activity is intended to reduce pesticide risk. While the expected impacts of some projects may be obvious, other projects may impact risk in more subtle or distant ways.

Finally, we ask that you tell us how you will measure the success of your activities. Ideally, you will be able to measure the actual reduction in risk that occurs as a result of your activities. In practice, this may be very difficult.

In the following pages of this guidance, we present an overview of measures that we hope will assist you in developing your 2004 Activities.

BACKGROUND DOCUMENT

We encourage you to prepare and submit a Background Document in addition to your Strategy.

Several members have taken the opportunity to submit this document that provides EPA with background information about their industry, pesticide use practices and issues, and organization.

This document will serve primarily an educational function for your Liaison and EPA, giving us information that will allow us to understand your situations and better serve you. EPA will review the background document and make it available through the PESP Web site.

Your background document may take any form, including submission of existing materials.

SUBMITTING YOUR STRATEGY

A blank Strategy form is enclosed for your use or reference. Strategy submission through the PESP website is encouraged:

- Go to www.epa.gov/oppbppd1/PESP and click on *Strategies*
- Choose the most convenient route under the *Methods of Submission*.
- Completed Strategy and Progress forms must either be submitted electronically or postmarked by **February 27, 2004**.



MEASURING ACTIVITIES

WHY DOES EPA NEED TO MEASURE PESP ACTIVITIES?

At EPA, it is important that we measure PESP activities for a number of reasons. EPA uses this information to document our compliance with the *Government Performance and Results Act (GPRA)* and in preparing EPA's *State of the Environment* report. Further, is used to inform the Agency's management and the public of PESP's progress. It will also be a major factor in selecting Partners and Supporters for EPA's recognition awards for environmental stewards.

HOW DOES EPA MEASURE PESP ACTIVITIES?

EPA uses three types of outputs or outcomes to measure the success of PESP:

ADMINISTRATIVE OUTPUTS

track and measure administrative actions taken by PESP that either require or stimulate responses by its members. For example, PESP tracks requests for proposals for PESP-related grants, the number of members and others who receive grant funding, the number of grant projects, and the amount of funds provided to each grantee for environmental stewardship projects.

It also tracks the number of Partners and Supporters and the number of complete strategies prepared by members and approved by PESP.

INTERMEDIATE OUTCOMES

track and measure actions taken by Partners and Supporters in response to PESP's or their own Administrative Outputs.

For example, members prepare strategies that commit themselves to specific programs to prevent pollution, reduce pesticide risks, and achieve environmental stewardship. They commit funds and conduct research and demonstration projects that advance solutions for safer pest management.

Partners and Supporters track the numbers of their members or customers that participate in the development and implementation of their strategies, attend its training sessions, receive their fact sheets, agree to cooperate and abide by negotiated environmental principals, and complete requirements for certification. These intermediate outcomes establish the means by which end outcomes may be realized.

END OUTCOMES

and environmental indicators help track and measure actual environmental results that fulfill PESP's and Partners' and Supporters' goals for environmental stewardship.

Quantifiable reductions of risky pesticides entering the environment and reductions in pesticide residues in foods are examples of End Outcomes.

Reductions in the number of people or animals poisoned by pesticides, reductions in the concentration of pesticides in water, improvements in wildlife habitat, increases in beneficial insects and indicator species are all examples of positive environmental indicators.

MEASURING & REPORTING END OUTCOMES

All outcomes are important in that they help construct a causal chain, each link having a role in achieving environmental results. However, End Outcomes are the most important - the keys to achieving environmental stewardship by which PESP's success will be evaluated.

While EPA and PESP members have, thus far, been effective in measuring and reporting Administrative Outputs and Intermediate Outcomes, it is apparent that measuring End Outcomes has been more difficult. Several PESP members have been successful in measuring and reporting end outcomes using environmental indicators.

Environmental indicators are critical for understanding the dynamic state of the natural environment. Environmental indicators form the sound bases for decision-making on a host of environmental issues including how limited resources should best be allocated and applied.

PESP's goal is to help more of our members identify and utilize environmental indicators to measure end outcomes of their environmental stewardship activities. It is often said, "one size does not fit all." How and what we measure in PESP needs to align with the capabilities, resources, and interests of PESP Partners and Supporters. Therefore, to achieve higher performance in PESP, it is common sense to look toward effective end outcomes and environmental indicators that have been "field tested," so to speak.



PESP CHAMPION INDICATORS

EPA's review of the PESP Strategies recognized that certain Partners and Supporters have made significant progress in the measurement of their End Outcomes and environmental indicators.

Although the complexities of measuring pollution prevention, pesticide risk reduction, and environmental stewardship remain difficult, a growing confidence is emerging among Partners and Supporters that manageable and practical tools are available that demonstrate significant environmental End Outcomes.

These Champion members demonstrate focus and drive toward reducing reliance upon more risky classes of pesticides, preventing or reducing release and exposure. They demonstrate excellence in conceiving ideas, goals, models, strategic planning, information and technology transfer, consensus building, and, most of all, commitment to practical and economical solutions that reduce pesticide risks while maintaining or improving economic competitiveness.

Examples of how some PESP Champions used Administrative Outputs, Intermediate Outcomes, and most importantly, End Outcomes to measure the success of their programs follow:

AMERICAN MOSQUITO CONTROL ASSOCIATION

advocates environmentally sound, source reduction techniques and biologically-based pest management practices including the use of reduced-risk larvicides.

AMCA also supports research on reduced risk mosquito management tactics, and leads a national initiative for the continued education and training of mosquito control industry employees in proper chemical application techniques and safety procedures.

Administrative Outcomes....

- number of workers trained in formalized programs;
- number of workers receiving Public Health Pest Control certification status; and
- number of people receiving mosquito control information via educational programs and the media.

Intermediate Outcomes....

- quantitative measures of progress in aerial spray program objectives relating to calibration of aircraft and ground spray booms, and optimizing droplet size/larvicide efficacy correlations; documenting implementation of newest proven spray optimization technologies.

ALMOND BOARD OF CALIFORNIA

sponsors research on almond varieties, crop management practices, and pest management. Specific interests include replacements for methyl bromide, use of leguminous cover crops for nitrogen fixing, IPM to control mite pests of pollinating bees, pheromone mating disruption, and ant and nematode control projects.

End Outcomes....

- reductions in pesticide use, as measured in pounds; and
- levels of pesticides in run-off from different almond treatments

GERBER PRODUCTS COMPANY

reduces pesticide risks by setting the high goal of the elimination of all detectable pesticide residues in its products. The goal is to be achieved by reducing or eliminating pesticide applications by adopting IPM methods and targeting higher risk chemical classes for elimination from its pest management toolbox.

Gerber employs strategic planning and do-not-use lists of pesticides with its growers.

End Outcomes....

- are measured through the electronic collection and analysis of all spray histories to monitor and assure pesticide use and application reductions are quantified and supportive of its goal.
- The environmental indicator is pesticide residues with the goal being no detectable residues.
- Gerber is experimenting with a toxicity rating program for comparing organic and typical spray programs.

WALNUT MARKETING BOARD

evaluates economic and effective, reduced-risk alternatives, such as biopesticides, disrupting the codling moth's life cycle, and encouraging codling moth predators. They also evaluate means of controlling walnut blight and nematodes and their resistance to pesticides.

Through the Walnut Pest Management Alliance, the industry monitors surface and ground water contamination, pesticide migration, and the use of pheromones. The industry has a long-term goal of a 75% reduction in the use of organophosphate and pyrethroid insecticides to control codling moth.

End Outcomes....

- reductions in the amount of organophosphate and pyrethroid insecticides applied to walnuts to control the codling moth

MONROE COUNTY COMMUNITY SCHOOL CORPORATION

continues to use its IPM program to reduce pesticide risks in schools and on school grounds.

Intermediate Outcomes....

- are measured by surveying schools to determine the level of IPM adoption.

End Outcomes....

- track pesticide usage and compare it to pre-IPM years as a measure of pesticide risk reduction.



PEBBLE BEACH COMPANY

incorporates pesticide environmental stewardship into all aspects of golf course, resort, and residential management.

Their activities include: monitoring pesticides and fertilizers in stormwater runoff ; installation of wash/rinse/mix/load treatment systems to reduce the potential for ground water contamination; funding research on Monterey pine trees' resistance to pitch canker disease; and providing all new residents and renters with fact sheets on household and garden pest control using an IPM approach.

Intermediate Outcomes....

- research dollars spent on strategies to control pitch canker
- number of fact sheets distributed to new residents/renters on household and garden pest control using an IPM approach

End Outcomes....

- amount of pesticides and fertilizers in samples of storm water runoff

MASSEY SERVICES, INC.

utilizes the safest, most effective prevention procedures and materials available in managing pests as part of a five choice IPM model. Massey seeks to use only pesticides that are in Toxicity Category *Caution* and, among those, prefers to use only highly specific bait formulations that eliminate toxicity and exposure to non-targets.

End Outcomes....

- are measured by the reduction of pesticide use on a total per customer basis and an annual total basis for the company.
- accomplished by tracking purchases of pesticide and non-pesticidal products (caulk, screen, monitor traps, etc.), and calculating the expenditure rates for each customer and amount of materials applied.
- compares these records with previous years to monitor reductions in pesticide risks by transitioning toward IPM solutions that reduce pesticide use.

GOLF COURSE SUPERINTENDENTS

ASSOCIATION OF AMERICA

(GCSAA) provides education and information to its members that enable them to effectively utilize pesticides as one tool in IPM programs for golf course maintenance.

End Outcomes...

are measured annually using the *Performance Measurement Survey* which collects data on the types and amounts of pesticides applied to golf courses and is used to track usage patterns year to year.

NORTHEAST UTILITIES

utilizes integrated vegetation management (IVM) to selectively reduce target trees and invasive shrub species in its utility rights-of-way while encouraging low-growing vegetated plant communities and improving species biodiversity and wildlife habitat.

It seeks to reduce the application of herbicide on a pounds per acre basis through improved technology and vegetation cover in rights-of-way that emerges from application of its Wildlife Habitat Management Plan and IVM.

End Outcomes....

- are measured using a herbicide application reporting system to capture volumes of herbicides applied to total acreage, pounds applied per acre, and comparisons to prior years and reporting cycles.
- through its Wildlife Habitat Management Plan, it surveys habitats in rights-of-ways to identify environmental indicators such as vegetative cover and wildlife species, creating a database to monitor impact of IVM on diversity and wildlife in comparison to mechanical mowing methods.

AUDUBON INTERNATIONAL

is dedicated to improving the quality of life and the environment through education, research, and conservation assistance. Through its certification program, Audubon International is implementing IPM strategies and cultural practices that reduce pesticide use, encourage the use of lower risk pesticides, educate users on chemical safety, and provide outreach and education.

Intermediate Outcomes....

- number of copies disseminated to golf course superintendents of *A Guide to Environmental Stewardship on the Golf Course*, a guidebook of environmentally responsible practices;
- new partners enrolled in Audubon's Cooperative Sanctuary Program;
- number of packets, fact sheets, and newsletters on IPM provided to members, as well as Web site hits on its IPM pages.

End Outcomes....

- are reductions in pesticide use, transition to reduced-risk pesticides, and adoption of cultural control methods that decrease the need for chemical control.

LODI-WOODBRIDGE WINEGRAPE COMMISSION

seeks to achieve pesticide risk reduction and sustainable practices in its winegrape growing. Its goal is to enroll all of its growers in an integrated farming program (IFP). Growers develop action plans for their vineyards that draw upon self-assessments using the workbook and workshops.

End Outcomes....

- are measured using a three-fold system:
- continuous self-assessment by growers to assess their progress in achieving IFP adoption;
 - monitor pesticide usage data for pesticides of concern; and
 - periodic surveys of growers that address levels of IFP adoption and growers' attitudes of IFP.



TAKING THE FINAL STEP TOWARD STRONG, MEASURABLE END OUTPUTS

While PESP has reasonably good Administrative Outputs and Intermediate Outcome indicators and measures, its weakness is identifying and measuring End Outcomes and environmental indicators.

As indicated by the experience of our PESP Champions, End Outcome and environmental indicators can include the decreased release of high-risk pesticides, increased populations of beneficial insects, decreased pesticide residues in foods, decreased bird or fish mortality related to pesticide poisoning, decreased poisoning incidents among farm workers, decreased pesticide contamination of drinking water, etc.

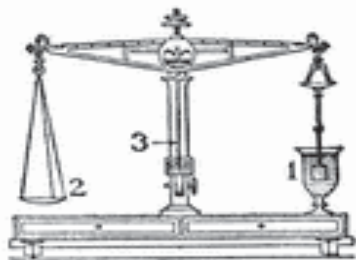
Or described positively, End Outcomes can include: improved wildlife habitat, increased populations of indigenous species, increased nesting pairs of birds, improved compliance with certain standards (e.g., pesticide tolerances, water quality standards) improved soils, etc.

For PESP, adopting indicators that measure End Outcomes in the environment is the ultimate goal. From a practical standpoint, PESP members can aspire to gradually shift their emphasis from administrative and intermediate to a mix of indicators that result in measurable environmental end outcomes.

The Champions by and large measure pesticide risk reduction by adopting target chemicals or chemical classes for reduced environmental release: FQPA priority classes organophosphate, carbamates, and B2 prob-

able carcinogens; organochlorines; troublesome insecticides, herbicides, and fungicides; Toxicity Categories 1 and 2 chemicals; etc.

Reducing the release of these chemicals by adopting IPM, reduced-risk pesticides, biopesticides, and softer pesticides reduces risks to human health and the environment.



Using state data collection or their own surveys for spray histories, volumes applied, acre treatments, application rates, etc., they monitor pesticide release for higher risk chemicals and track downward trends in risk. Exposures

are reduced or eliminated.

All Partners and Supporters could adopt this strategy to some extent for monitoring reduced environmental release of higher-risk chemicals as indicators for pollution prevention, risk reduction, and environmental stewardship.

Eliminating pesticide residues in commodities is a goal for some Champions, but reporting residue reductions are not.

EPA uses USDA data to monitor pesticide residues for OPs, carbamates, and B2 carcinogens, using indicator percent detections in a rolling three year average for each year thus smoothing out single year affects of weather, pest pressures, pest management practices, and/or commodities tested.

Perhaps, such an approach could be an option for PESP Partners and Supporters, not only for residues but also for other measures.

Many PESP members track numbers of acres under IPM or numbers of customers who adopt IPM, defining IPM specifically for its special situation, or numbers of acres treated with biopesticides and/or reduced-risk pesticides, etc.

The final step is to report these data systematically as an indicator.

For monitoring treatment thresholds under IPM, growers trap pests. They might also consider sampling beneficial insects to indicate positive trends?

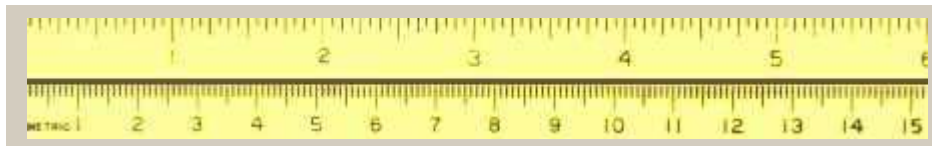
Or, perhaps they could team with trained volunteers to monitor wildlife?

What could be said about farm worker protection in a way that could be an indicator?

If we cannot measure actual pesticide concentrations or detections in rivers, streams, wells, etc., what about adopting methods that prevent such pollution and measure their use?

PESP is aware of numerous environmental indicators and intends to share that information with our Partners and Supporters.

There is a story to be told of which we all can be proud for our hard work as environmental stewards.



PESP MEMBERS WITH SECTOR AFFILIATIONS

Agricultural Conservation Innovation Center
All Service Pest Management, Inc.
Almond Board of California
American Association of Pesticide Safety Educators
American Bird Conservancy Pesticides & Birds Campaign

American Electric Power Service Corporation
American Mosquito Control Association
American Nursery and Landscape Association
American Peanut Council
American Pest Management, Inc.

Aquila
Aquimix, Inc.
Arizona Public Service
Artichoke Research Association
Association of Applied IPM Ecologists

Auburn University-Dept. of Entomol. & Plant Path.
Audubon International Cooperative Sanctuary Prog.
Bay Area Stormwater Management Agencies Assoc.
Bio-Integral Resource Center
Brookfield Zoo

California Pear Advisory Board
California Pear Growers
California Citrus Research Board
California Dried Plum Board
California Floral Council

California Fresh Carrot Advisory Board
California Lettuce Research Board
California Melon Research Advisory Board
California Pistachio Commission
California Tomato Commission

Campbell Soup Company
Central Coast Vineyard Team
Central Maine Power Company
Central Vermont Public Service Corporation
Central Virginia Electric Cooperative

Chicago Parks District, Division of Conservatories
City of Davis (CA)
Clemson University Public Service & Agriculture
Connectiv
Cranberry Institute

Cuyahoga County Board of Health
Del Monte
Duke Power Company
Eden Advanced Pest Technologies
Edison Electric Institute

Energy Association of Pennsylvania
Farm & Home Environmental Management Programs
Fischer Environmental Services Inc.
Florida Fruit & Vegetable Association
Florida Pest Control Association

Florida Turfgrass Association
General Mills, Inc.
Georgia Peach Council
Gerber Products Company
Glades Crop Care, Inc.

Golf Course Superintendents Association of America
Griggs County (ND) 319 Water Quality Project
Hawaii Area Wide Fruit Fly Pest Management Program
Hawaii Banana Industry Association
Hawaii Papaya Industry Association

Hawaiian Electric Company
Highlands Soil & Water
Hood River Grower-Shipper Association
Institute for Agriculture and Trade Policy

International Cut Flower Growers
IPM Institute of North America, Inc.
Kansas Corn Growers Association
Kansas Grain Sorghum Producers Association
Kyrene Elementary School

Technology Transfer
Comm./Resid. Pest Control
Tree Fruit and Nuts
Technology Transfer
Technology Transfer

Rights-of-Way
Comm./Resid. Pest Control
Landscaping/Turf
Field/Row Crops
Comm./Resid. Pest Control

Rights-of-Way
Rights-of-Way
Rights-of-Way
Vegetables
Crop Consultants

Schools
Landscaping/Turf
Government
Technology Transfer
Landscaping/Turf

Tree Fruit and Nuts
Tree Fruit and Nuts
Tree Fruit and Nuts
Tree Fruit and Nuts
Landscaping/Turf

Vegetables
Vegetables
Non-tree Fruits
Tree Fruit and Nuts
Vegetables

Food Processors
Non-tree Fruits
Rights-of-Way
Rights-of-Way
Rights-of-Way

Landscaping/Turf
Landscaping/Turf
Technology Transfer
Rights-of-Way
Non-tree Fruits

Government
Food Processors
Rights-of-Way
Comm./Resid. Pest Control
Rights-of-Way

Rights-of-Way
Technology Transfer
Comm./Resid. Pest Control
Vegetables
Comm./Resid. Pest Control

Landscaping/Turf
Food Processors
Tree Fruit and Nuts
Food Processors
Crop Consultants

Landscaping/Turf
Government
Non-tree Fruits
Non-tree Fruits
Tree Fruit and Nuts

Rights-of-Way
Non-tree Fruits
Tree Fruit and Nuts
Technology Transfer

Landscaping/Turf
Schools
Field/Row Crops
Field/Row Crops
Schools

Lodi-Woodbridge Wine Grape Commission
Low Input Viticulture and Enology of Oregon
Maryland Department of Agriculture
Massachusetts IPM Council
Massey Services, Inc.

Meligolf LLC
Miami Tribe of Oklahoma
Michigan Asparagus Research, Inc.
Michigan Cherry Committee
Mint Industry Research Council

Monroe County School Corporation
National Alliance of Independent Crop Consultants
National Council of Farmer Cooperatives
National Grape Cooperative, Inc.
National Grid

National Pest Management Association
National Pesticide Stewardship Alliance
National Potato Council
New England Fruit Consultants
New England Vegetable & Berry Growers Assoc.

New York City Board of Education
New York Power Authority
New York State Gas & Electric
North American Pollinator Protection Campaign
Northeast Res., Ext. & Acad. Prg. Comm. for IPM

Northeast Utilities
Northern Indiana Public Service Company
Northwest Alfalfa Seed Grower Association
Organic Materials Review Institute (OMRI)
Owen Specialty Services, Inc.

Pacific Coast Producers
Pacific Gas & Electric
Pear Pest Management Research Fund
Pebble Beach Company
Pennsylvania Power & Light

Pennsylvania Rural Electric Association
Pepco
Pineapple Growers Association of Hawaii
Professional Lawn Care Association of America
Progress Energy Carolinas, Inc.

Rainforest Alliance - ECO o.k. Program
Reliable Pest Control
ReMetrix LLC
Sanitary Pest Control Company
Sarasota County Government Public Works

Sonoma County Grape Growers Association
Southwest School IPM Technical Resource Center
Sprague Pest Solutions
Steritech Group, Inc.
Sun-Maid Growers of California
Sunkist Growers

Tennessee Valley Authority
Texas Pest Management Association
Univ. of Florida Cooperative Extension Service
Univ. of WI - Center for Integrated Agric. Systems
U.S. Apple Association

U.S. Canola Association
U.S. Department of Defense
U.S. Golf Association
U.S. Hop Industry Plant Protection Committee
U.S. Public Health Service

U.S. Sugar Corporation
VA, MD, & DE Association of Electric Cooperatives
Vegetation Managers, Inc.
Walnut Marketing Board
Walt Disney World Resort

Washington State Department of Agriculture
Washington State Department of Transportation
West Virginia Power
Winter Pear Control Committee
Wisconsin Apple Growers Association

Wisconsin Public Service Corporation

Non-tree Fruits
Non-tree Fruits
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Vegetables

Government
Rights-of-Way
Rights-of-Way
Environmental Organizations
Technology Transfer

Rights-of-Way
Rights-of-Way
Field/Row Crops
Organic
Rights-of-Way

Tree Fruit and Nuts
Rights-of-Way
Tree Fruit and Nuts
Landscaping/Turf
Rights-of-Way

Rights-of-Way
Rights-of-Way
Non-tree Fruits
Landscaping/Turf
Rights-of-Way

Non-tree Fruits
Comm./Resid. Pest Control
Technology Transfer
Comm./Resid. Pest Control
Government

Non-tree Fruits
Schools
Comm./Resid. Pest Control
Comm./Resid. Pest Control
Non-tree Fruits
Tree Fruit and Nuts

Rights-of-Way
Technology Transfer
Schools
Technology Transfer
Tree Fruit and Nuts

Field/Row Crops
Government
Landscaping/Turf
Field/Row Crops
Government

Field/Row Crops
Rights-of-Way
Rights-of-Way
Tree Fruit and Nuts
Landscaping/Turf

Government
Government
Rights-of-Way
Tree Fruit and Nuts
Tree Fruit and Nuts

Rights-of-Way



PESP SECTORS

PESP consists of approximately 140 members. While these organizations are quite diverse, they share attributes that allow them to be grouped. These groupings or *sectors* allow EPA to more effectively manage a growing, complex program and provide information specific to members who share the same concerns about pests and pest management. Members within the same sector are encouraged to communicate such concerns and success stories with one another. Thereby, they will form a network for IPM and other activities that reduce pesticide risk. The PESP sectors are described below.

AGRICULTURAL SECTOR UMBRELLA

PESP membership is comprised of a strong agricultural component. Four individual sectors, whose members produce food crops, fall under this umbrella. For the purpose of brevity, these sectors have been grouped.

FIELD AND ROW CROPS SECTOR

encompasses the majority of agricultural acreage in the United States and an important segment of the nation's economy, especially processed foods and exports. It includes corn, cotton, wheat, cattle, potatoes, peanuts, hops, sugar, mint, alfalfa, canola, and tobacco.

TREE FRUIT AND NUTS SECTOR

consists of sixteen diverse, voluntary organizations working within the framework of the FQPA to build sustainable farming and IPM programs that support the production and distribution of U.S. tree fruit and nut commodities.

VEGETABLE SECTOR

includes seven organizations representing various minor crops grown across the country. Its members have been seeking to learn more about the pest problems they face and develop pest management programs to minimize risk while ensuring the economic viability of vegetable growers. Their efforts include IPM research and scouting programs, the development of IPM standards and certification programs, and grower education.

NON-TREE FRUIT SECTOR

includes organizations representing the wine grape, melon, cranberry, raisin, banana and pineapple industry, as well as a groups dedicated to promoting soil health in both conventional and organic production systems. An emphasis on sustainable approaches to agriculture is paramount to many of the organizations in this sector. Specifically, the wine grape grower groups that have adopted positive point systems for assessing implementation of pesticide risk reduction and other sustainable practices in all aspects of wine grape growing.

Agriculture is a cross-media Agency issue, directly affected by the Food Quality Protection Act (FQPA) of 1996. An explicit goal of the FQPA is to reduce residues on foods eaten by children by 30 percent by 2008.

During 2003, many agricultural members supported the goals of the FQPA through their PESP strategies and made significant strides in their efforts to implement, communicate, and measure the effectiveness of sustainable programs.

For example: almond growers partnered with state regulatory agencies to track and measure reductions in pesticide use; cherry growers made exciting progress in finding alternatives to organophosphate pesticides and testing the efficacy of new pest management technologies; peach growers worked to adapt an existing mating disruption product for use in agricultural regions with longer pest cycles; aspara-

gus researchers increased the adoption of on-farm scouting to expand the use of disease forecasting systems, resulting in growers making the transition to reduced-risk pesticides and using less pesticides; and several wine grape members made significant progress in expanding the use of self-assessment programs, which focus on the level of adoption of sustainable farming practices.

In 2004, agricultural members will continue to confront challenges associated with reducing the risk of pesticides. Members will deal with broad pest management issues such as maintaining their export markets under IPM programs and identifying reduced-risk, conventional pesticides and biopesticides for new and emerging pests.

Members also will address specific problems such as the impact of backyard and urban pest reservoirs on IPM

farming programs. In addition, there will be increased focus on soil health through the use of compost teas and other means to increase populations of soil organisms necessary for improved nutrient cycling and reductions in pesticide inputs.

For its part, EPA will help members confront these issues and will continue to support the transition to reduced-risk and low-risk pest management practices, further measurement and communication of the effectiveness of these programs, and development of strategies for addressing emerging pest management issues.

In addition, PESP will seek and promote cooperation and synergies between our members and applicable Government programs such as EPA's Strategic Agricultural Initiative (SAI) and USDA's Regional IPM Centers.



ANTIMICROBIAL SECTOR

Antimicrobial pesticides are used to destroy or suppress the growth of harmful microorganisms—bacteria, viruses, or fungi on inanimate objects and surfaces.

More than 5,000 antimicrobial products are currently registered with EPA, and sold in the marketplace. Approximately 40% of antimicrobial products are used in the home to control such things as mold and mildew, and the other 60% are registered to control infectious microorganisms in hospitals and other health care environments. From anthrax clean-up to swimming pool maintenance, antimicrobial pesticides affect all of us.

Since this is a new sector, plans for 2004 involve recruiting and building liaison relationships with six associations which work closely with the users of antimicrobial pesticides and can help EPA achieve its goals of protecting human health and the environment.

The sector will establish relationships with associations in the heating, ventilation, and cooling industry, antifoulant alternatives/paint area, food processing plants, home building association (focusing on mold and mildew), wood preservative industry, and the public health arena.

EPA will recruit these user associations, assist them in developing their strategies, and help them clearly define achievable and measurable goals.

The sector's priorities in 2004 will be disseminating information and research on heavy duty wood preservatives—used on everything from playground equipment to utility poles—and registering alternatives.

PESP also will work with sector members to refine their strategies, confront new antimicrobial issues, identify opportunities for communicating information, cooperate with each other and others in the PESP network, and align their programs with national environmental indicators.

COMMERCIAL & RESIDENTIAL PEST CONTROL SECTOR

The 12 members of this sector are engaged in activities ranging from structural and general pest control in commercial buildings and residences to the control of mosquitoes and other outdoor pests common to the urban and suburban environment.

The sector includes nine small to midsize pest control companies, two national trade associations, and one state trade association.

Insecticides comprise about 95% of pesticide products used by these industries. About one-half of applications nationwide are located in the Southeast due to climate conditions and pest pressures.

PESP supports this sector in its efforts to reduce pesticide risk through cultural controls, the elimination of breeding sites, and the use of reduced-risk products and spot treatments.

A major theme in this sector is disseminating information to applicators and other technicians by means of workshops, training sessions, fact sheets, and other means. There is a growing emphasis on outreach and education to consumers and the general public through Web sites, one-on-one information exchange, newsletters, and the media.

In 2003, members reduced the use of injected dusts and foggers, increased the use of termite baits in place of barrier treatments, and reduced the use of pyrethroid dusts and sprays for structural pests.

In mosquito control, the national association has made progress in its aerial spray program by calibrating aircraft and ground spray booms and optimizing droplet size/larvicide efficacy correlations.

A major challenge for 2004 is controlling the West Nile Virus. Management of the disease's vectors, particularly the *Culex pipiens* complex, can be very difficult, particularly in urban areas.

Members will research control strategies to determine which work best under various circumstances, and many new mosquito control programs will need to respond as the virus spreads. In

addition to research, members need to educate the public about this disease.

In the area of general and structural pest control, the industry continues to transition to reduced-risk and low-risk pest management practices following the phase-out of organophosphate pesticides.

CROP CONSULTANTS SECTOR

This new sector includes four organizations representing over 500 crop consultants in the U.S. and covering a good cross-section of agriculture. These organizations provide independent technical support, research, and advice to growers. Their basic mission to implement scientific and technological advances that enhance environmental sustainability and profitability on clients' farms.

Crop consultants provide an essential link to growers to maximize the benefit of latest technological developments and integrated farm management techniques, and an important connection to influence accepted farming practices in local communities.

Last year, sector members significantly aided the adoption of safer, integrated technologies and pest management practices by conducting research, demonstrating new techniques, promoting the use of GIS/GPS-based targeting technologies, and developing IPM measurement methodologies. Members disseminated information to growers and other technicians by means of workshops, training sessions, fact sheets, networking with educational institutions and conducting or monitoring demonstration trials.

In 2004, PESP will broaden our connection with crop consultants and support their efforts to reduce pesticide risks and improve pest management practices among their growers. PESP recognizes that consultants frequently work with the most innovative and technologically conscious growers and that these growers are an important in affecting pest management practices.

This sector will also benefit and evolve from networking with existing agricultural and technology transfer sectors and from reinforcing its strong connections with universities and government agencies with similar interests.



ENVIRONMENTAL ORGANIZATIONS SECTOR

A new sector was recently formed to provide a place in PESP for non-grower organizations whose mission is to reduce the risk of pesticides to human health and the environment.

Recruited organizations will most likely be non-profit, non-government, public interest or environmental groups that promote the use of biopesticides and IPM. In addition, many of these organizations are working to improve human health and the environment overall and will bring much knowledge and experience to PESP.

In 2004, PESP will work closely with organizations that share common values with EPA and are committed to pesticide safety, education, and the adoption of alternative pest management strategies which reduce or eliminate a dependence on pesticides.

Many of this sector's activities will evolve from networking with existing sectors including Agriculture, Technology Transfer, Schools, and Landscaping and Turf.

FOOD PROCESSORS SECTOR

Comprised of four major food processors, this sector seeks to foster information sharing related to pest management practices among its members. Members of this sector are unique in that their brand identities are of primary importance and their use of pesticides is often closely guarded from the general public. Through sharing the results of their pest management practices and research, this sector offers its members an opportunity for mutual benefit.

In 2003, the sector was led by one member who is pursuing risk reduction on several fronts - reduced use, substitution of reduced-risk pesticides, and sound IPM practices.

In 2004, PESP will develop a stronger relationship with the members of this sector and engage them all in the strategy process. Additionally, this sector is ripe for growth as there are numerous food processors who would benefit from the knowledge and experience of the current PESP members.

GOVERNMENT SECTOR

Nine federal, state, county and tribal organizations that support programs in pollution prevention, pesticide risk reduction, IPM and environmental stewardship comprise this sector.

It offers unique opportunities for partnering because its members are empowered and directed by statute and charter to protect and improve human health and environment.

These members are leaders in their respective areas of action, conducting and overseeing health and environmental programs for which they are accountable. In establishing their goals, they negotiate with diverse stakeholders on how best to accomplish outcomes that benefit their respective communities.

In 2003, members of the Government Sector served as "pathfinders" by turning problems and possibilities into positive actions for public health and the environment. For example, one state's department of agriculture worked closely with a local university to evaluate the use of beneficial insects as alternatives to insecticides and to propagate the insects for use by growers. A major federal department updated its pest management plans for all of its facilities in an effort to reduce pesticide use and risk.

LANDSCAPING & TURF SECTOR

This sector addresses the use of pesticides on ornamentals (e.g., flowers) and turf on residential and commercial properties, public spaces, and golf courses. It includes associations that represent the ornamental and lawn care industries, the golf course industry, and public organizations.

The ornamental industry faces challenges similar to minor crops in that the economic incentives to register new pesticides are limited by the potential for low pesticide sales.

The turf industry, a more significant pesticide market, is mainly concerned with controlling weeds on residential properties and diseases on golf courses.

In 2003, sector members aided the adoption of modern, safer technologies and pest management practices. They educated pesticide users to practice IPM through cultural controls such as

planting native species of plants and using pesticides only where and when they are needed.

Members also exchanged information within their industry and highlighted positive role models through their certification programs. Some projects demonstrated new biological controls and new varieties of grass as alternatives to conventional pesticides.

Members of initiatives addressing golf courses and residential lawns and landscapes reached consensus on principles of environmental stewardship and public education.

In 2004, the sector will undertake the challenge of finding new pesticides that are effective, affordable, and reduce pesticide risk. Examples include advances in biotechnology and new grasses, which require less maintenance and are more tolerant of cold, drought, shade and heat.

Research will be undertaken to develop economical, broad-spectrum products to control weeds and to replace highly toxic insecticides such as diazinon and chlorpyrifos.

In addition, members will provide education on water protection to commercial applicators and the public.

ORGANIC SECTOR

This new sector will open PESP membership to organic grower groups and organizations that wish to partner with EPA to address issues directly impacting organic agriculture.

There are more than 12,000 organic farmers in the United States, with that number increasing up to 12% every year. Organic food producers use materials and methods that minimize negative impacts on the environment, and most producers follow some type of standard.

In 2004, EPA will consider for membership in the Organic Sector: grower groups, non-profit organizations, trade associations, universities, and other institutions that utilize, advocate, or support organic cropping systems.

In addition, EPA will work with new members to provide a forum for the identification of reduced-risk, pest management tactics employed in organic production systems that can be transferred successfully to conventional agriculture.



RIGHTS-OF-WAY SECTOR

There are currently 26 Partners and Supporters in this large and active sector. Because of the high number of participants, some members serve as umbrellas or coordinating bodies for their affiliate members.

Members include utility companies, energy associations, vegetation management companies, government agencies and other organizations whose goal is to promote the use of IPM in the maintenance of rights of ways for transmission of electric power. Members of this sector are keenly aware of the public's concerns about pesticide risk reduction, pollution prevention, and environmental stewardship.

Last year, sector members worked to train and educate their own workers and contractors on Integrated Vegetation Management (IVM), ecosystem maintenance and habitat management. In addition, information sharing between members also played a large role in this sector with members suggesting ideas and options under adoption for use by their peers. For example, several members are adopting the use of Geographical Information Systems (GIS) and Global Positioning Systems (GPS) assist in managing rights of ways.

These and other practices have directly resulted in measurable reduction in the use of herbicides and PESP is drawing wide attention to them both within the sector and in other sectors. Other members are particularly progressive in the management of rights of ways as wildlife habitat and are using approaches that might offer models for consideration by other companies. Still other members have developed excellent public outreach programs.

In 2004, PESP will continue to broadcast and highlight the successes of its participating sector members and will recruit organizations that represent other rights of way such as highways, railroads and park lands.

PESP will also continue to identify promote and encourage the use of new technologies, innovations, and novel approaches to maintaining rights of way in a manner that minimizes the risk of pesticides to the environment.

SCHOOLS SECTOR

The mission of the Schools Sector is to protect school children from unnecessary exposure to pesticides. The Sector includes universities developing school training programs, non-profit organizations developing IPM certification programs, and school districts implementing pilot programs.

In 2003, over 2 million children benefited from IPM school projects developed or coordinated by PESP members and EPA's Pesticides and Schools Initiative. New York City's IPM program accounted for a large percentage of these students. Many other programs are based on a model developed by Monroe County, Indiana.

These IPM programs are resulting in measurable reductions in the use and risk of pesticides. For example, member schools reduced pesticide applications and pest management costs by over 90 percent.

By furthering IPM in schools, these members also contributed to pesticide safety and awareness at home.

In 2004 and beyond, the Schools Sector will improve regional coordination for IPM activities in schools and focus on expanding the district school models for state implementation.

A pilot program based on the Monroe County model is underway in the District of Columbia.

EPA will also work with new PESP members, such as the National Head Start Program, to disseminate information on safer, reduced-risk pest management practices for both school and home environments.

PESP will continue to expand this sector and focus its recruitment efforts on large organizations that represent school business officials, custodial personnel, and teachers.

TECHNOLOGY TRANSFER SECTOR

This diverse sector is comprised of 18 non-profit associations, institutes, resource centers, universities and other organizations whose goal is to identify, develop and promote innovative technologies that reduce the risk of pesticides and promote pest management practices that minimize negative effects on the environment.

In 2003, members reported a host of research and outreach activities and programs that promoted the use of IPM, biopesticides and organic cropping systems.

Members also trained pest control operators, informed the public about least-toxic alternatives to pesticides, offered continuing education programs, and sponsored numerous web sites and publications. In addition, members also were actively involved with labeling and marketing approaches that support environmentally friendly agriculture.

Finally, many members assumed leadership roles in identifying and employing methods to measure the outcomes of their programs.

In 2004, PESP will work closely with members of this sector to identify alternative approaches that can be leveraged to improve the performance of other sectors and members.

PESP will also explore national implications and opportunities for the adoption of technologies and innovations that have been successful at the local and regional level.

